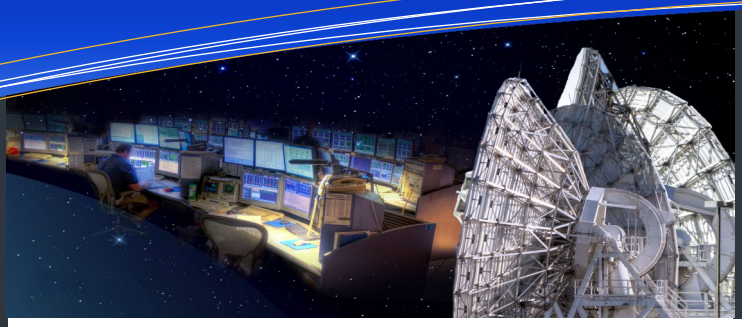
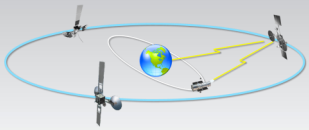
August 2013, Vol 1 Issue 3

Space Network Ground Segment Sustainment (SGSS) Newsletter



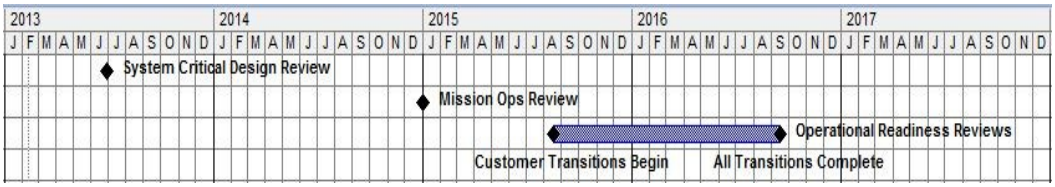
SGSS Goals and Objectives

- Reduce communication costs for our customers
- Implement an extensible, flexible, and scalable ground terminal architecture
- Continue to provide existing Space Network functionality
- Reduce lifecycle costs
- Enhance the continuity of operations posture of the Space Network
- Transition from the legacy system to the new SGSS system in a low risk environment
- Meet or exceed the legacy proficiency, performance, and availability requirements



SGSS Status Update

SGSS has seven distinct elements which form the building blocks for the ground terminals. Earlier this year, each element underwent a critical design review. All elements successfully passed their reviews. Also, the technical portion of the overall system CDR was completed in June 2013. The programmatic portion of the sCDR, covering cost and schedule, is scheduled for October 2013. Work is proceeding to refine the SGSS detailed design and continue system development.



Major SGSS Project Milestones

Customer Meetings Continue

The SGSS Project plans to continue to facilitate customer interaction through the use of Technical Interchange Meetings (TIMs) which build on the successes of previous SGSS Customer Forums. The first Technical Interchange meeting is expected to occur in Fall 2013.

SGSS/Customer Modernization Efforts

In addition to meeting the legacy interface needs of SN Customers, the SGSS Project is actively working to identify interface modernization opportunities for current and future missions. Opportunities include migration from serial interfaces to IP interconnects, and potential performance enhancements such as the JSC/ISS 600 Mbps throughput data rate support.

SGSS/SN Management Interchange Meeting

SGSS held the first SGSS/Space Network Management Interchange Meeting (SSMIM) in Nov 2012 at General Dynamics in Arizona. Space Network, NASA Headquarters and other stakeholders participated in this first meeting by discussing items of mutual interest and concern. SSMIM discussions will continue in the future.

GENERAL DYNAMICS
C4 Systems

HARRIS

Developing Customer ICDs

The SGSS Project continues to meet with the SN, GD, and customers to create and validate detailed Interface Control Document (ICD) Addenda. The SGSS Project is working with each SN customer that connects to SGSS.

In addition to the base set of ICDs for the Mission Operation Centers (MOCs) and local interface customers, each MOC ICD will include an appendix for each SGSS customer identifying customer-specific information. This information includes references to the base ICDs pertinent to that particular customer, as well as the sections within the ICDs that directly affect them, and data that is unique to each customer such as port IDs for directly-connected devices.

Thus far over 20 Customer Addenda have been developed and distributed to Customers for review and validation.

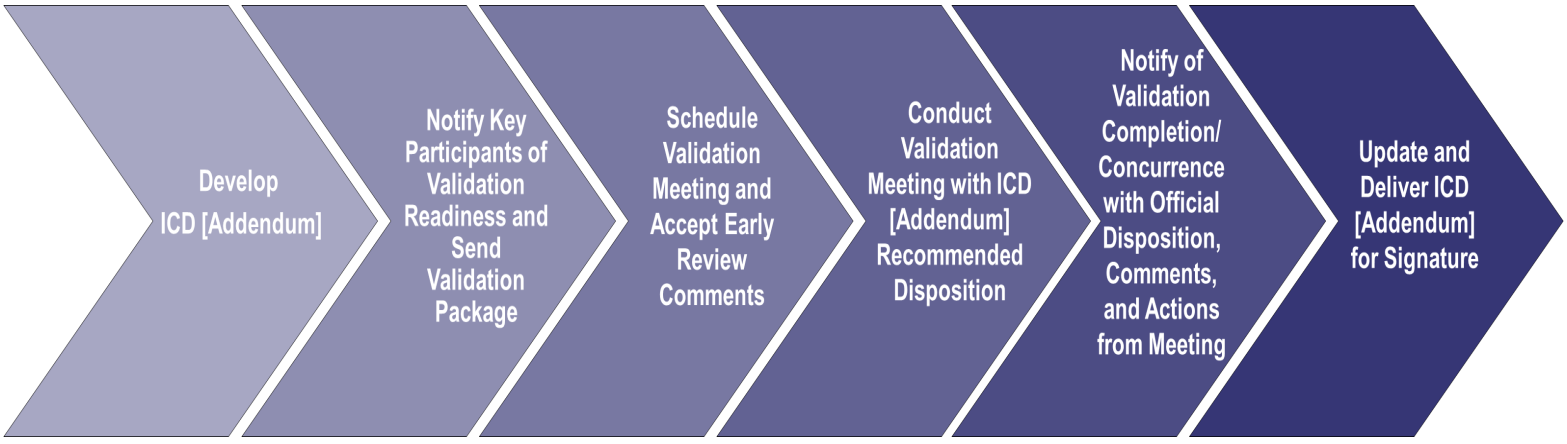
Work continues for the initial ICD addenda development effort through the rest of the year, and-as always-updates will be made as necessary to maintain needed levels of service to missions.

SGSS Q&A

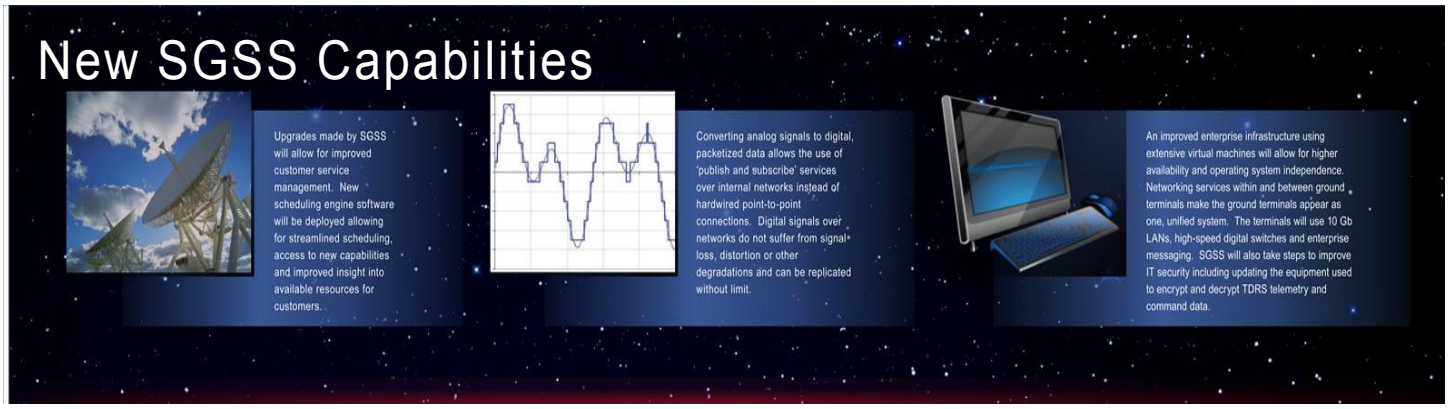
Q: How does SGSS determine who to contact for each mission?

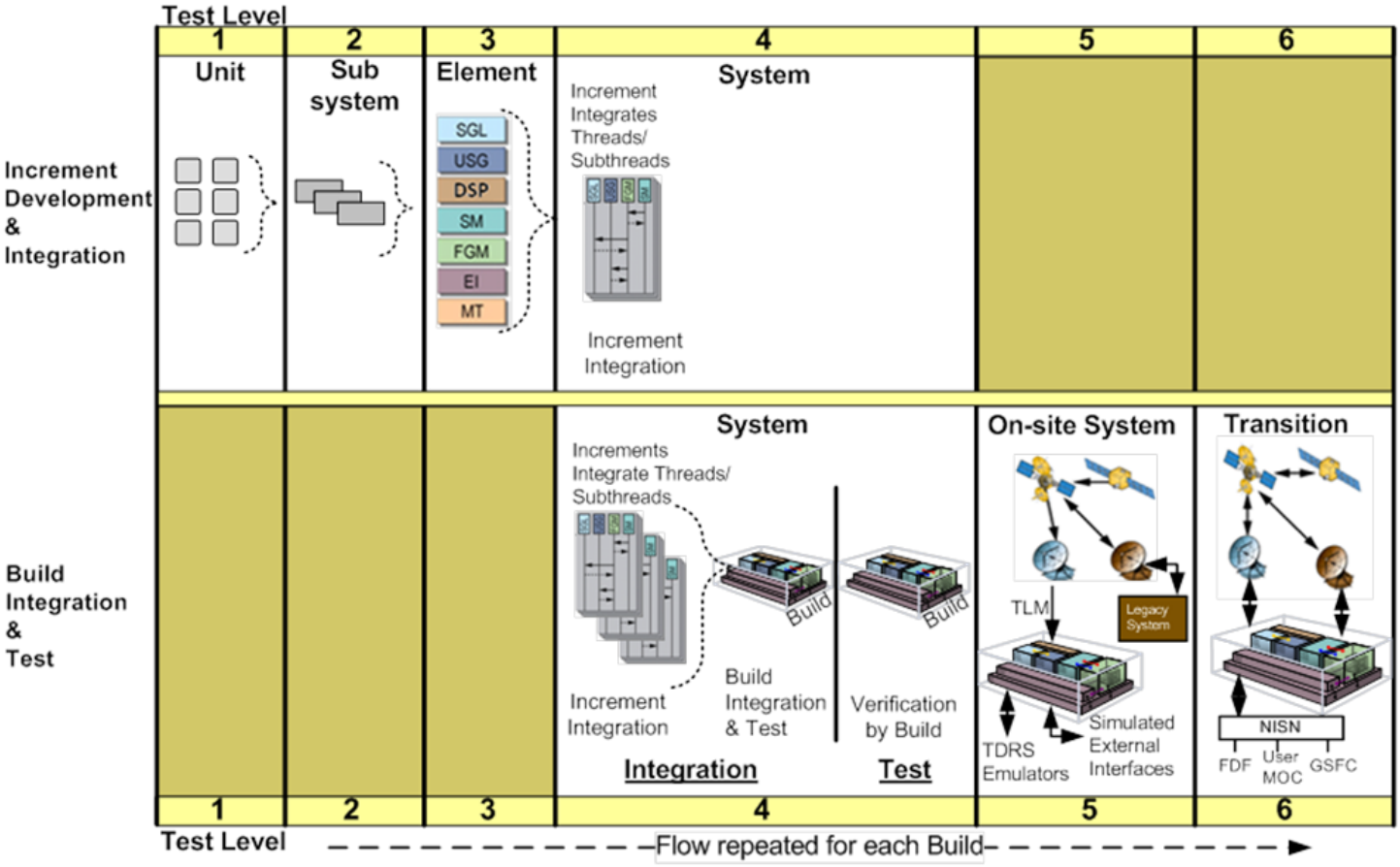
A: Through the Customer forums, SGSS reviews, and work with the SN and NIMO, the SGSS Project has identified Project and Program points of contact for each mission. The SGSS Project maintains this information, and tracks the status of missions that may be impacted by SGSS. Currently, SGSS has 56 Customers identified for SGSS addenda.

As work continues, the SGSS Project reaches out to the current mission POC in anticipation of Addendum review and validation. The mission POC identifies and coordinates the mission review activities for each customer addendum.



SGSS ICD Validation Process



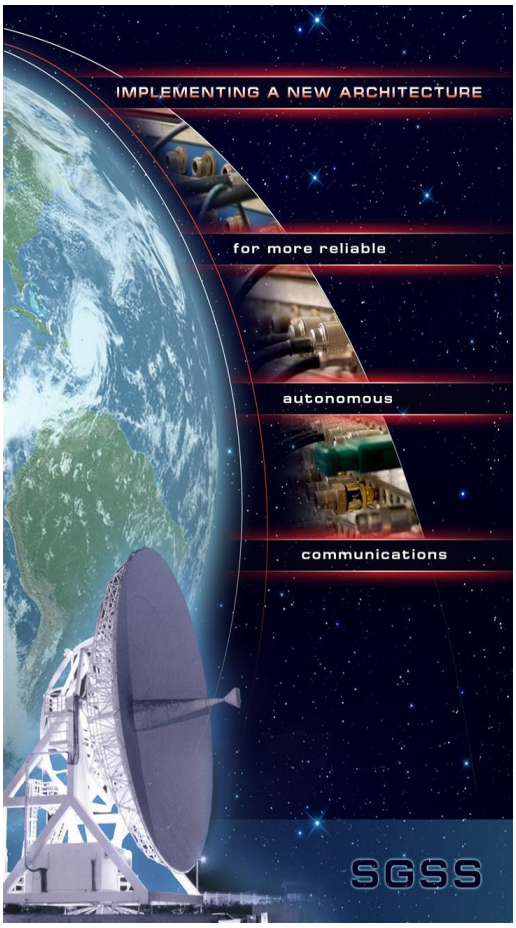


SGSS Looks Forward to Integration and Test

With the successful completion of the design reviews and the continued diligent efforts of everyone involved in the design and implementation efforts, SGSS has officially begun component-level testing at the General Dynamics facility in Scottsdale, AZ.

Planning and Tool development activities are on-going for the first incremental deliverable, called "A2," delivery into System I&T. Increment A2 focuses on functions necessary to manage and control the first generation TDRS. The incremental build plan is expected to provide significant opportunities for managing the complexity of integration by phasing in new functionality, as well as lowering overall program risk by enabling the detection and correction of problems early—well before formal system verification testing.

This development effort also provides an opportunity for early evaluation of planning, scheduling, and service execution functions carried out by the SGSS Service Management functions. Lessons learned from this incremental development activity will be applied to future increments and test efforts to maximize efficiency.



SGSS Recognition Efforts

Peer Review Awards were awarded to several of the SGSS Project personnel in recognition of their efforts.

The SGSS Project also awarded certificates of appreciation to select Project personnel in recognition of their work throughout the design phase of SGSS.

Peer Review Award Winners:

Vir Thanvi—Mission Impossible
Roger Clason—Steady Helm
Tom Gitlin—Wild Card
Tim Bensch—Boundless Energy
Barry Lusby—Steady helm
Dan Laczko—Unsung Hero

What do you like the best about working on SGSS?

The SGSS Project allows me to work with an incredible group of people – on the project itself, and with the SN. It also allows me the opportunity to be part of maintaining – and expanding – a vital national communications system.

What are the challenges facing SGSS?

The most challenging aspect of SGSS is the incredible complexity of the legacy system's capabilities. The SN has evolved over the past quarter-century, and continues to evolve to meet its customer's needs. SGSS has the challenge of developing and implementing a simple, yet elegant and expansible, solution for the next quarter-century; and doing so to meet and anticipate the needs of the SN's current and future customers.

Get to know...

Tim Bensch
Deputy SEIT Manager

SGSS Customer Forum #3 Update

The SGSS Customer Forums have been replaced by more specific TIMs (see page 1). The first TIM will be held in Fall 2013. We would like to focus discussions onto those areas of particular interest to SGSS Customers. To suggest topics, please contact Tom Gitlin (thomas.a.gitlin@nasa.gov).

First Production Readiness Review Success

On May 14, 2013 SGSS successfully completed its first Production Readiness Review (PRR). The PRR determines the readiness of the system developers to efficiently produce the required number of systems. It ensures that the production plans; fabrication, assembly, and integration -enabling products; and personnel are in place and ready to begin production in compliance with NPR 7123.1A. The successful PRR enabled full SGSS implementation efforts for hardware deliverables by demonstrating readiness in labs and manufacturing environments.

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